

TRUMP, T. et al.
Serial No. 10/785,399

Atty Dkt: 4147-65
Art Unit: 2646

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 17, and continuing to page 1, line 27, as follows:

Most mobile terminals used today include a manual volume control that can be used for increasing the loudspeaker volume. However, this may not always solve the problem of enhancing the audibility, and that mainly depends on the so-called side-tone that most often is included in a mobile terminal. The side-tone adds a portion of the talkers voice to the loudspeaker in order to make the terminal sound "more alive". Typically, the side-tone is at a level of approximately 10-20 dB below the microphone level, see ITU-T Recommendation G.121[4]. The perception of the side-tone is very sensitive to the time-delay between the side-tone and the talkers voice. This time-delay should preferably be short, hence the side-tone has traditionally been implemented as an attenuated (by 10-20 dB) version of the microphone signal.

Please amend the paragraph beginning at page 2, line 22, and continuing to page 2, line 25, as follows:

The solution described in US Patent No. 5,524,148, Allen et al. [2] amplifies the far-end signal based on the noise level from the near-end. This solution is based on the assumption that whenever a user is present in an environment with a high background noise level, the user will benefit from an increased level of the far-end signal.

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Please amend the paragraph beginning at page 2, line 15, and continuing to page 2, line 20, as follows:

The problem of increasing the audibility has been addressed in ~~{2}~~ US Patent No. 5,524,148, Allen et al. by including a processing function in the network that amplifies the far-end signal based on the noise level present at the mobile user side. Since this amplification only affects the far-end signal and not the noise signal added locally in the terminal via the side-tone, this approach will increase the signal to noise ratio.

Please amend the paragraph beginning at page 5, line 3, and continuing to page 5, line 5, as follows:

~~An object of the present invention is to selectively adjust~~ The far-end signal level is selectively adjusted in situations when this increases audibility and to leave the far-end signal essentially unaltered when it does not.

Please amend the paragraphs beginning at page 5, line 28, and continuing to page 6, line 4, as follows:

FIG. 2 is a block diagram of a first exemplary embodiment of ~~an apparatus in accordance with the present invention~~ audibility enhancement apparatus;

FIG. 3 is a flow chart of an exemplary embodiment of ~~the an~~ audibility enhancement method in accordance with the present invention;

FIG. 4 is a block diagram of a second exemplary embodiment of audibility enhancement apparatus ~~an apparatus in accordance with the present invention;~~

FIG. 5 is a block diagram of a third exemplary embodiment of audibility enhancement apparatus ~~an apparatus in accordance with the present invention;~~ and

FIG. 6 is a block diagram of a fourth exemplary embodiment of audibility enhancement apparatus ~~an apparatus in accordance with the present invention.~~

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Please amend the paragraph beginning at page 6, line 14, and continuing to page 6, line 28, as follows:

The problem at hand and the terminology used in this document is described in Fig. 1. A far-end or sending user provided with a telephone set having a microphone 10 and a loudspeaker 12 sends speech signals over a telephone network to a near-end or receiving user provided with a terminal having a loudspeaker 14 and a microphone 16. The terminal equipment at the near-end picks up near-end speech and near-end background noise in microphone 16. In some embodiments of the terminal equipment a portion of this noise is added to the received far-end signal as a side-tone before the combined signal reaches near-end loudspeaker 14. As noted above, this side tone may or may not influence the audibility of the received far-end speech signal. In a noisy near-end environment audibility may be enhanced by the network, for example by amplifying the far-end signal as described in US Patent No. 5,524,148, Allen et al. (2). However, as was also described above, this may not always be desirable. Thus, a more flexible method that can cope with different needs would be desirable. ~~Such a method is an object of the present invention.~~

Please amend the paragraph beginning at page 11, line 3, and continuing to page 5, line 6, as follows:

There are several known ways to estimate speech level *SP*, see e.g. ITU-T Recommendation P.56. (3). The preferred embodiment uses a modified version of method B of recommendation P.56 (called "P.56" below) described in ITU-T Recommendation P.56. (3) that measures the so called active speech level.

Please delete all text on page 17.